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SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
GREENBELT, MARYLAND

Volume 1, No. 22 SATELLITE SITUATION REPORT December 5, 1961

The following report reflects data computed and compiled by Goddard Space Flight Center, NORAD, and the Smithsonian Astrophysical Observatory as of 1200Z on December 5, 1961.

SPECIAL EVENTS:

On November 29, 1961 the MA-5 vehicle was launched into orbit carrying a Chimpanzee. The Mercury capsule was successfully de-orbited and recovered after two orbits.

RALPH R. STROBLE
HEAD, Operations Branch

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE S. MILES	PERIGEE S. MILES	TRANSMITTING FREQ. (MC/S)
1958 ALPHA 1	EXPLORER I	US	1 FEB 58	106.0	33.19	1086	217	
1958 BETA 1	ROCKET BODY	US	17 MAR 58	138.3	34.26	2686	406	
1958 BETA 2	VANGUARD I	US	17 MAR 58	133.9	34.24	2453	404	108.022
1959 ALPHA 1	VANGUARD II	US	17 FEB 59	125.3	32.87	2077	313	
1959 ALPHA 2	ROCKET BODY	US	17 FEB 59	129.5	32.90	2253	367	
1959 ETA 1	VANGUARD III	US	18 SEP 59	129.7	33.30	2312	321	
1959 MU*	LUNIK I	USSR	2 JAN 59	450D	0.01	1.3177AU	0.9766AU	
1959 NU*	PIONEER IV	US	3 MAR 59	398D	0.127	1.1421AU	0.9871AU	
1959 IOTA 1	EXPLORER VII	US	13 OCT 59	101.1	50.31	669	344	19.9904
1959 IOTA 2	ROCKET BODY	US	13 OCT 59	100.9	50.30	656	345	
1960 ALPHA*	PIONEER V	US	11 MAR 60	311.6D	3.35	.9951AU	.8061AU	
1960 BETA 1	ROCKET BODY	US	1 APR 60	99.1	48.41	463	429	
1960 BETA 2	TIROS I	US	1 APR 60	99.1	48.39	467	429	107.997
1960 BETA 3	NONE	US	1 APR 60	97.8	48.46	445	375	
1960 BETA 4	NONE	US	1 APR 60	99.8	48.15	503	434	
1960 GAMMA 2	TRANSIT 1B	US	13 APR 60	94.7	51.28	403	229	
1960 GAMMA 4	NONE	US	13 APR 60	96.8	51.21	458	299	
1960 EPSILON 1	SPUTNIK IV	USSR	15 MAY 60	91.7	65.02	287	160	
1960 EPSILON 3	NONE	USSR	15 MAY 60	93.0	64.89	353	172	
1960 EPSILON 4	NONE	USSR	15 MAY 60	POSITION UNCERTAIN				
1960 ZETA 1	MIDAS II	US	24 MAY 60	94.2	33.01	311	299	
1960 ETA 1	TRANSIT 2A	US	22 JUN 60	101.6	66.77	649	389	162;216;
1960 ETA 2	GREB	US	22 JUN 60	101.6	66.77	657	381	
1960 ETA 3	ROCKET BODY	US	22 JUN 60	101.4	66.77	642	383	
1960 IOTA 1	ECHO I	US	12 AUG 60	116.2	47.30	1297	583	
1960 IOTA 2	ROCKET BODY	US	12 AUG 60	118.0	47.22	1049	932	
1960 IOTA 3	METAL OBJECT	US	12 AUG 60	118.2	47.20	1049	941	
1960 IOTA 4	METAL OBJECT	US	12 AUG 60	118.2	47.23	1071	922	
1960 IOTA 5	METAL OBJECT	US	12 AUG 60	118.3	47.20	1060	940	
1960 NU 1	COURIER 1B	US	4 OCT 60	106.8	28.20	755	599	107.9709
1960 NU 2	ROCKET BODY	US	4 OCT 60	106.4	28.29	759	567	
1960 XI 1	EXPLORER VIII	US	3 NOV 60	112.5	49.92	1411	258	
1960 XI 2	ROCKET BODY	US	3 NOV 60	112.2	49.98	1397	259	
1960 XI 3	NONE	US	3 NOV 60	110.9	49.39	1333	250	
1960 XI 4	NONE	US	3 NOV 60	111.7	50.52	1366	262	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE S. MILES	PERIGEE S. MILES	TRANSMITTING FREQ. (MC/S)
1960 PI 1	TIROS II	US	23 NOV 60	98.2	48.57	461	378	
1960 PI 2	ROCKET BODY	US	23 NOV 60	98.1	48.57	455	378	
1960 PI 3	NONE	US	23 NOV 60	98.1	48.46	453	383	
1960 PI 4	NONE	US	23 NOV 60	98.3	48.51	455	389	
1961 ALPHA 1	SAMOS II	US	31 JAN 61	94.9	97.40	340	295	
1961 ALPHA 2	METAL OBJECT	US	31 JAN 61	94.9	97.40	338	295	
1961 GAMMA 1*	VENUS PROBE	USSR	12 FEB 61	300D	0.581	1.0190AU	0.7183AU	
1961 DELTA 1	EXPLORER IX	US	16 FEB 61	118.1	38.81	1524	466	
1961 DELTA 2	ROCKET BODY	US	16 FEB 61	118.5	38.77	1619	391	
1961 DELTA 3	NONE	US	16 FEB 61	118.1	38.87	1555	438	
1961 DELTA 4	NONE	US	16 FEB 61	POSITION UNCERTAIN				
1961 EPSILON 1	DISCOVERER XX	US	17 FEB 61	93.2	80.91	359	176	
1961 ZETA 1	DISCOVERER XXI	US	18 FEB 61	93.7	80.74	423	138	
1961 KAPPA 1	EXPLORER X	US	25 MAR 61	POSITION UNCERTAIN				
1961 LAMBDA 1	DISCOVERER XXIII	US	8 APR 61	92.2	82.31	288	183	
1961 LAMBDA 2	CAPSULE	US	8 APR 61	96.5	81.94	605	126	
1961 NU 1	EXPLORER XI	US	27 APR 61	107.9	28.78	1109	301	108.058
1961 OMICRON 1	TRANSIT 4A	US	29 JUN 61	103.8	66.81	620	547	54;150;324;400
1961 OMICRON 2	INJUN-SR-3	US	29 JUN 61	103.3	66.82	619	548	136.5;108.09
1961 OMICRON 3-52**	METAL OBJECTS	US	29 JUN 61					
1961 PI 1	DISCOVERER XXVI	US	7 JUL 61	88.1	82.89	109	109	
1961 RHO 1	TIROS III	US	12 JUL 61	100.3	47.90	510	457	108.0;108.03
1961 RHO 2	ROCKET BODY	US	12 JUL 61	100.3	47.85	503	462	
1961 RHO 3	METAL OBJECT	US	12 JUL 61	98.8	47.92	500	376	
1961 RHO 4	METAL OBJECT	US	12 JUL 61	101.9	47.89	563	498	
1961 SIGMA 1	MIDAS III	US	12 JUL 61	161.5	91.13	2197	2084	
1961 SIGMA 3	METAL OBJECT	US	12 JUL 61	161.2	91.13	2179	2085	
1961 SIGMA 4	METAL OBJECT	US	12 JUL 61	161.9	91.15	2205	2096	
1961 UPSILON 1	EXPLORER XII	US	16 AUG 61	1592.7	33.43	47952	284	136.020
1961 OMEGA 1	DISCOVERER XXX	US	12 SEP 61	89.4	82.66	155	144	
1961 ALPHA DELTA 1	MIDAS IV	US	21 OCT 61					
1961 ALPHA EPSILON 1	DISCOVERER XXXIV	US	5 NOV 61	96.8	82.52	607	140	

OBJECTS IN ORBIT (CONT'D)

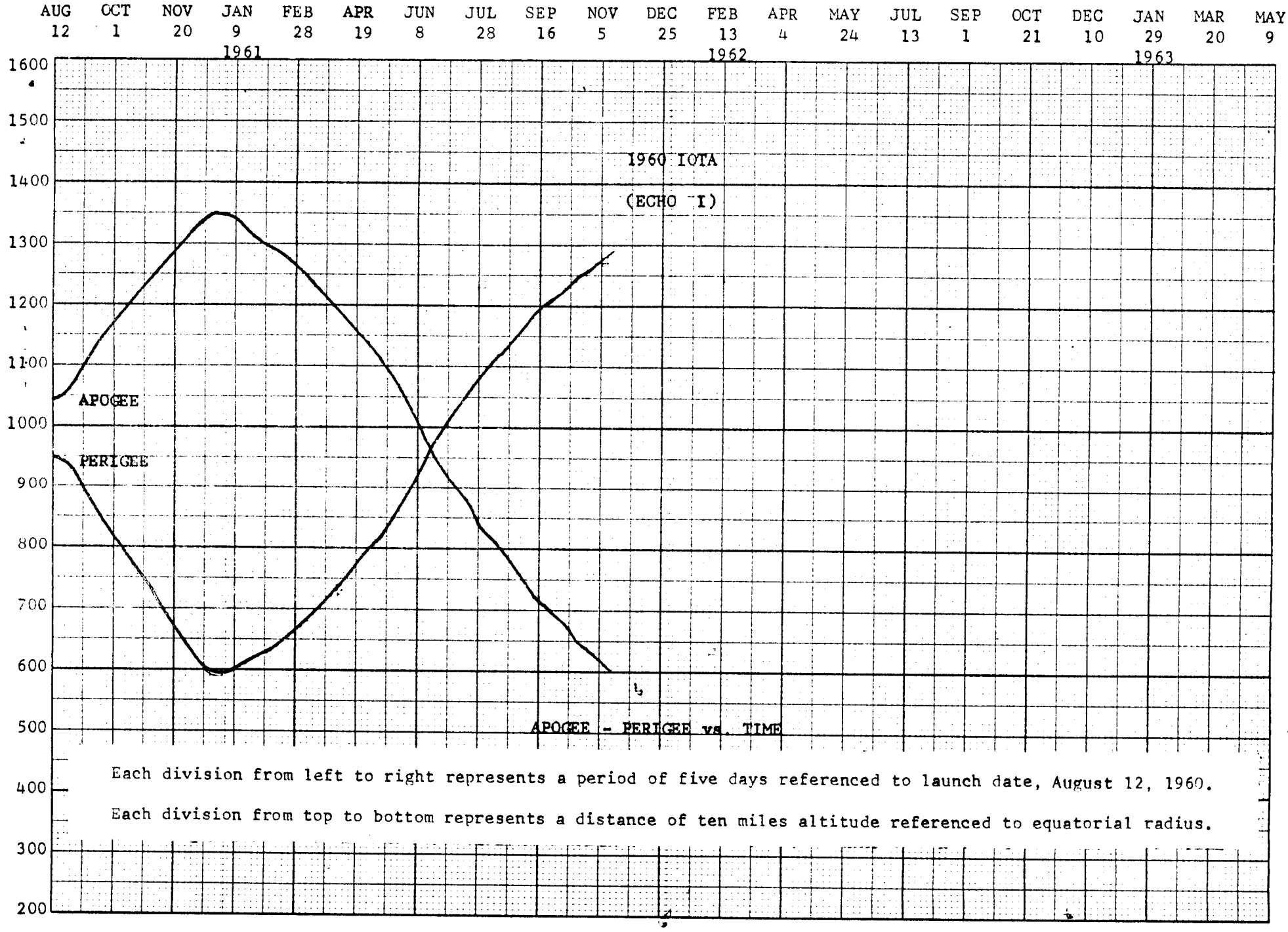
OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE S. MILES	PERIGEE S. MILES	TRANSMITTING FREQ. (MC/S)
1961 ALPHA EPSILON 3	METAL OBJECT	US	5 NOV 61	91.1	82.42	252	154	
1961 ALPHA EPSILON 4	METAL OBJECT	US	5 NOV 61	92.3	82.50	324	154	
1961 ALPHA EPSILON 5	METAL OBJECT	US	5 NOV 61	92.5	82.52	347	140	
1961 ALPHA ZETA 1	DISCOVERER XXXV	US	15 NOV 61	88.2	81.63	113	112	
1961 ALPHA ETA 1	TRANSIT IV-B	US	15 NOV 61	105.6	32.43	696	586	136.8;54;324;150;400
1961 ALPHA ETA 2	TRAAC	US	15 NOV 61	105.6	32.43	701	581	136.65;54;324
1961 ALPHA ETA 3	ROCKET BODY	US	15 NOV 61	105.5	32.41	686	588	

*APHELION, PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.
**FIFTY METAL OBJECTS HAVE BEEN IDENTIFIED IN THE PLANE OF THE 1961 OMICRON 1 AND 1961 OMICRON 2 ORBITS.

PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST:

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1959 DELTA 1	EXPLORER VI	US	7 AUG 59	PRESUMED PRIOR JUL 61
1959 DELTA 2	ROCKET BODY	US	7 AUG 59	PRESUMED PRIOR JUL 61
1961 ALPHA EPSILON 2	METAL OBJECT	US	5 NOV 61	30 NOV 61
1961 ALPHA ZETA 2	METAL OBJECT	US	15 NOV 61	23 NOV 61
1961 ALPHA IOTA 1	MA-5	US	29 NOV 61	29 NOV 61*
1961 ALPHA IOTA 2	ROCKET BODY	US	29 NOV 61	30 NOV 61

*SUCCESSFUL RE-ENTRY AND RECOVERY.


AUG 12
OCT 1
NOV 20
JAN 9
1961
FEB 28
APR 19
JUN 8
JUL 28
SEP 16
NOV 5
DEC 25
FEB 13
1962
APR 4
MAY 24
JUL 13
SEP 1
OCT 21
DEC 10
JAN 29
1963
MAR 20
MAY 9
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
1960 IOTA
(ECHO I)
APOGEE
PERIGEE
APOGEE - PERIGEE vs. TIME
Each division from left to right represents a period of five days referenced to launch date, August 12, 1960.
Each division from top to bottom represents a distance of ten miles altitude referenced to equatorial radius.